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EXAMINER

LAFORGIA, CHRISTIAN A

ART UNIT PAPER NUMBER

2155

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/579,292

Applicant(s)

BELL, RUSSELL W.

Examiner

Christian La Forgia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Claims 1 through 22 are presented for examination.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

3. The oath or declaration is defective because:

4. The inventor did not sign the declaration.

Drawings

5. The drawings received on 25 May 2000 are accepted.
 6. The Patent and Trademark Office no longer makes drawing changes. See 1017 O.G. 4.
- It is applicant's responsibility to ensure that the drawings are corrected. Corrections must be made in accordance with the instructions below.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

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All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.185(a). Failure to take corrective action within the set (or extended) period will result in **ABANDONMENT** of the application.

Claim Rejections - 35 USC § 102.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 9, 11, 12, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,572,528 to Shuen, (hereinafter Shuen).

9. As per claim 9, Shuen teaches a software bridge/muter system for providing a logical connection between a first local area network (LAN), having a first series of computers therein, a second LAN, having a second series of computers therein, and a wide area network, wherein the first LAN and the second LAN are located within a small office, home office (SOHO) computer network, comprising:

10. a master computer which is capable of identifying all computers within the first LAN and the second LAN (Figures 1, 2, 3, & 13; column 1, line 51 to column 2, line 15; column 12, lines 51-67); and

11. a first slave computer located within one of the first LAN and the second LAN, and a

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second slave computer located within one of the first LAN and the second LAN (Figures 1, 2, 3, & 13; column 1, line 51 to column 2, line 15; column 13, lines 1-42; column 16, lines 4-27),

12. wherein the master computer provides for communication between the first slave computer and the second slave computer, and between the SOHO computer network and the wide area network (WAN) (Figures 1, 2, 3, & 13; column 15, line 63 to column 16, line 16).

13. Concerning claim 11, Shuen teaches wherein the master computer is determined during initiation of the first and second LANs, the master computer being a computer within the first LAN or the second LAN which first detects the digital connection (Figures 1, 2, & 3; column 1, lines 11-57; column 2, lines 17-42).

14. With regards to claim 12, Shuen teaches wherein all of the first series of computers and the second series of computers are identified by a media access control address (column 2, line 56 to column 3, line 20).

15. Regarding claim 13, Shuen teaches wherein each of the first series of computers and the second series of computers are capable of being the master computer (Figures 1, 2, 3, & 13; column 1, lines 11-57; column 2, lines 17-42; column 12, line 52 to column 13, line 43).

16. With regards to claim 14, Shuen teaches wherein computers within the first series of computers are capable of communicating with other computers within the first series of computers without the assistance of the master computer, and the second series of computers are

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capable of communicating with other computers within the second series of computers without the assistance of the master computer (Figures 1, 2, 3, & 13; column 1, lines 11-57; column 2, lines 17-42).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 1 through 4, 8, and 16 through 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Open Service Gateway Architecture Overview**, by Michael Condry et al. (hereinafter Condry) in view of **The Residential Gateway**, by Clifford R. Holliday (hereinafter Holliday).

19. As per claim 1, Condry teaches a method of providing a software bridge/router within a small office, home office computer network comprising a series of computers, comprising the steps of:

20. determining a media access control address of each of the series of computers within the computer network (page 740, **Device Access and Discovery** to page 741, **User Interaction**);

21. receiving a request from a first computer within the computer network, to communicate with either a second computer within the computer network, or a wide area network (WAN) (Figure on page 736; page 735, **OSGi Overview**; page 738, **Services**; page 740, **OSGi required Services, User Interaction**);

22. in response to the request being to communicate with the second computer, determining whether the media access control address of the second computer has previously been determined (page 740, **Device Access and Discovery** to page 741, **User Interaction**; page 740, **OSGi required Services**); and,

23. if the media access control address of the second computer has previously been determined, providing communication between the first computer and the second computer (page 740, **Device Access and Discovery** to page 741, **User Interaction**).

24. Condry does not teach in response to the request being to communicate with the WAN, performing a protocol conversion and providing communication between the first computer and the WAN.

25. Holliday teaches in response to the request being to communicate with the WAN, performing a protocol conversion and providing communication between the first computer and the WAN (page 30, columns 1 and 2). Therefore, it would have been obvious to one with ordinary skill in the art to combine the teachings of Holliday with the system of Condry, because it would enable a system that would be able to handle the vast array of available services.

26. Regarding claim 2, Condry does not teach wherein the computer network comprises at least a first local area network and a second local area network.

27. Holliday teaches wherein the computer network comprises at least a first local area network and a second local area network (page 29, **Broadband networks proliferate**, "One effect of this stepped-up competition and the industry's structural change is the sudden emergence of, not one, but several actual and potential broadband communications networks into

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homes and small businesses.”). It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the several networks of Holliday with the system of Condry, because it would create a system that manages bandwidth better.

28. Regarding claim 3, Condry does not teach wherein communication between the small office, home office network and the WAN is provided by at least one xDSL modem.

29. Holliday teaches wherein communication between the small office, home office network and the WAN is provided by at least one xDSL modem (page 30, column 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the DSL capabilities of Holliday with the system of Condry, because it would create a method to meet the high bandwidth demands of today’s small office, home office networks.

30. With regards to claim 4, Condry does not teach wherein the connection to the wide area network is a digital subscriber line.

31. Holliday teaches wherein the connection to the wide area network is a digital subscriber line (page 30, column 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the DSL capabilities of Holliday with the system of Condry, because it would create a method to meet the high bandwidth demands of today’s small office, home office networks.

32. Regarding claim 8, Condry teaches wherein the communication between the first computer and the second computer comprises the transmission of data (page 739, **Bundles**).

33. As per claim 16, Condry teaches a system for providing a software bridge/router within a small office, home office computer network comprising a series of computers, comprising:

34. a means for determining a media access control address of each of the series of computers within the computer network (page 740, **Device Access and Discovery** to page 741, **User Interaction**);

35. a means for receiving a request from a first computer within the computer network, to communicate with either a second computer within the computer network, or a wide area network (WAN) (Figure on page 736; page 735, **OSGi Overview**; page 738, **Services**; page 740, **OSGi required Services, User Interaction**);

36. a means for determining whether the media access control address of the second computer has previously been determined (page 740, **Device Access and Discovery** to page 741, **User Interaction**; page 740, **OSGi required Services**); and

37. a means for providing a communication between the first computer and the second computer (page 740, **Device Access and Discovery** to page 741, **User Interaction**).

38. Condry does not teach a means for performing a protocol conversion and providing communication between the first computer and the WAN.

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39. Holliday teaches a means for performing a protocol conversion and providing communication between the first computer and the WAN (page 30, columns 1 and 2). It would have been obvious to one with ordinary skill in the art to combine the teachings of Holliday with the system of Condry, because it would enable a system that would be able to handle the vast array of available services.

40. Regarding claim 17, Condry does not teach wherein the computer network comprises at least a first local area network and a second local area network.

41. Holliday teaches wherein the computer network comprises at least a first local area network and a second local area network (page 29, **Broadband networks proliferate**, “One effect of this stepped-up competition and the industry’s structural change is the sudden emergence of, not one, but several actual and potential broadband communications networks into homes and small businesses.”). It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the several networks of Holliday with the system of Condry, because it would create a system that manages bandwidth better.

42. With regards to claim 18, Condry does not teach wherein the software bridge/router provides a bridge/router between the first local area network and the second local area network, and between the computer network and a wide area network.

43. Holliday teaches wherein the software bridge/router provides a bridge/router between the first local area network and the second local area network, and between the computer network and a wide area network (page 29, **Broadband networks proliferate**, “One effect of this stepped-up competition and the industry’s structural change is the sudden emergence of, not one,

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but several actual and potential broadband communications networks into homes and small businesses.”). It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the several networks of Holliday with the system of Condry, because it would create a system that manages bandwidth better.

44. Concerning claim 19, Condry teaches wherein the computer network comprising a single local area network (page 735, **OSGi Overview**, “The SG [Service Gateway] is inserted between the Service Provider network and the embedded or small environment LAN and client devices”).

45. Regarding claim 20, Condry does not teach wherein the connection to the wide area network is a digital subscriber line.

46. Holliday teaches wherein the connection to the wide area network is a digital subscriber line (page 30, column 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the DSL capabilities of Holliday with the system of Condry, because it would create a method to meet the high bandwidth demands of today’s small office, home office networks.

47. Claims 5 through 7, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Condry in view of Holliday as applied to claim 1 above, and further in view of **Internetworking with TCP/IP: Principles, Protocols, and Architectures**, by Douglas E. Comer, (hereinafter Comer).

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48. Regarding claim 5, Condry and Holliday do not teach wherein the step of determining a media access control address of each of the computers is performed by a first computer that then stores the media access control addresses within an address table.

49. Comer teaches wherein the step of determining a media access control address of each of the computers is performed by a first computer that then stores the media access control addresses within an address table (Figure 5.1; page 79, **5.5 Resolution Through Dynamic Binding** to page 81, **5.7 Arp Cache Timeout**; page 82, **5.10 ARP Implementation** to page 84, **5.11 ARP Encapsulation and Identification**). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the address table of Comer with the combined system of Condry and Holliday, because it would create a lightweight method of storing the media access control address on a centralized server.

50. With regards to claim 6, Holliday teaches wherein the first computer is the first computer within the computer network to locate a digital subscriber line at the initialization of the computer network (page 30, columns 1 and 2).

51. Concerning claim 7, Condry teaches wherein the first computer provides a bridge/route between the small office, home office, and a wide area network (page 735, **OSGi Overview**, “A few examples of services being developed to be delivered to the Service Gateway include: 1. Embedded industrial network bridging to create a bridge between a networked control environment and a broader network such as the Internet).

52. Regarding claim 21, Condry and Holliday do not teach wherein the means for determining a media access control address of each of the computers is performed by a first computer that then stores the media access control addresses within an address table.

53. Comer teaches wherein the means for determining a media access control address of each of the computers is performed by a first computer that then stores the media access control addresses within an address table (Figure 5.1; page 79, **5.5 Resolution Through Dynamic Binding** to page 81, **5.7 Arp Cache Timeout**; page 82, **5.10 ARP Implementation** to page 84, **5.11 ARP Encapsulation and Identification**). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the address table of Comer with the combined system of Condry and Holliday, because it would create a lightweight method of storing the media access control address on a centralized server.

54. With regards to claim 22, Holliday teaches wherein the first computer is the first computer within the computer network to locate a digital subscriber line at the initialization of the computer network (page 30, columns 1 and 2).

55. Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuen in view of Holliday.

56. Regarding claim 10, Shuen does not teach wherein the SOHO is connected to the WAN via a digital subscriber line (DSL).

57. Holliday teaches wherein the SOHO is connected to the WAN via a digital subscriber line (DSL) (page 30, column 1). It would have been obvious to one of ordinary skill in the art at

the time the invention was made to combine the DSL capabilities of Holliday with the system of Condry, because it would create a method to meet the high bandwidth demands of today's small office, home office networks.

58. Concerning claim 15, Shuen teaches wherein a refresh cycle is performed periodically to determine whether the master computer has ceased to function, the refresh cycle resulting in determination of a new master computer if the master computer has ceased to function (Figures 1, 2, 3, & 13; column 1, lines 11-57; column 2, lines 17-42).

Remarks

59. For the sake of examination, the Examiner will refer to the enclosed non-patent literature entitled **Java Embedded Server Software**, by Anne Thomas, for the definition of computer.

60. The examiner would also like to point out that **Open Service Gateway Architecture Overview**, by Michael Condry et al., teaches using a variety of network protocols. The Examiner takes this to include TCP/IP and everything that is incorporated within. This includes ARP and RARP. For further reference to TCP/IP, ARP, and RARP please refer to the enclosed packets from **Internetworking with TCP/IP: Principles, Protocols, and Architectures**, by Douglas E. Comer, specifically chapters 5 and 6.

Conclusion

61. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

62. The following patents are cited to further show the state of the art with respect to bridge/router software, such as:

United States Patent No. 6,058,355 to Ahmed et al., which is cited to show an example of the use of residential gateways.

United States Patent No. 5,987,524 to Yoshida et al., which is cited to show a routing system.

United States Patent No. 5,136,580 to Videlock et al., which is cited to show a method and apparatus for learning MAC addresses in LANs.

United States Patent No. 5,835,710 to Nagami et al., which is cited to show network interconnection.

United States Patent No. 4,901,312 to Hui et al., which is cited to show the remote interconnection of local area networks.

63. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (703) 305-7704. The examiner can normally be reached on Monday thru Thursday 7-5.

64. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (703) 305-9648. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7240 for regular communications and (703) 746-7239 for After Final communications.

65. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Christian LaForgia
Patent Examiner
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February 21, 2003



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